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(54) Gas heater

(57) It is provided with a variable placement base that allows the heater to take up less space, with the consequential advantages in transporting and storage, as well as greater possibilities for location and manageability for the user.

It is provided with a stationary part (1) with some guides (3) in which some side overlaps (8) of a moveable part (2) that is easily drawn out until it remains adjacent and at the level of the stationary part (1), are coupled and said parts (1) and (2) form an extended base where the gas cylinder is placed. It is likewise easy to introduce the moveable part (2) under the stationary part (1.)

The stationary part (1) has an edge (4) and some tongue pieces (8) that constitute respective stops when drawing out and inserting the moveable part (2.) Said parts (1) and (2) are provided with wheels (11) and (12) which make the heater more maneuverable.

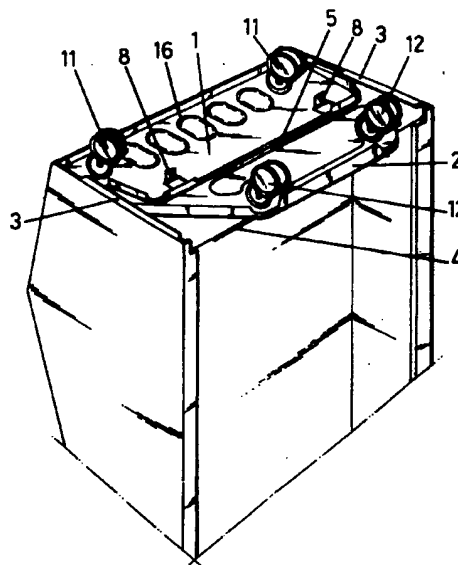


FIG. 2

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Description

OBJECT OF THE INVENTION

Just as is expressed in the title of the present specification, the present invention refers to a gas heater, whose purpose consists of lowering the costs of processes such as transport and storage, as well as providing greater reliability and comfort for the user, due to the possibility to reduce the size of the corresponding heater when the same is not in use.

Precisely due to this reduction of size it is less expensive to transport and store the same, since given available space can contain a larger number of heaters.

BACKGROUND OF THE INVENTION

Moveable gas heated for domestic use are known. A gas cylinder is hooked up in said heaters as gas is the fuel that the same use to give off heat. Consequently, the support bases of such heaters have a size at least equal to, or slightly larger than the base of the typical gas cylinder, so that the cylinder may be easily replaced, and so that said cylinder remains inside the heater, so that both of them together may be easily transported as these heaters have some wheels in their support base.

These conventional moveable gas heaters have the inconvenience that they are much larger than what is technically required for their operation, upon having to house the cited gas cylinder. As a result, the space taken up is too large, and when the heater is not in use it is difficult and cumbersome for the user to find a closet or place to store the heater. This same reason of taking up space requires for the manufacturer or seller transport and storage processes which are more expensive upon needing larger spaces to contain a certain number of heaters, which also has a negative effect on the user, who will have to pay a higher price for the heater.

DESCRIPTION OF THE INVENTION

In order to achieve the aims and avoid the inconveniences indicated above, the invention consists of a gas heater whose dimensions, especially that of depth, can be greatly reduced.

This reduction of size is determined by the fact that the base of the heater, which conventionally has a size appropriate for the size of the base of a typical gas cylinder, is divided, according to the invention, into independent smaller parts, so that they can be retracted when there is no gas cylinder inside the heater.

Hence, in these conditions, as the heater is open at the back, and as the side walls of the same have a depth equivalent to that of only one of the parts of the base, it takes up much less space.

The placement base of the heater is variable, so that when it is not in use it has a smaller surface, while when it is in use said base becomes larger by means of variable

placement elements that provide the convenient size and shape to support the gas cylinder.

It is provided for that the variable placement elements of the base of the heater include rollers, levers, stops and other means considered convenient to facilitate the operations of enlarging or reducing the base.

In the preferred embodiment of the heater of the invention it is necessary to draw out a bottom part of the base by means of sliding it along some side guides provided on the bottom surface of a top part of the base. Different stops so that the removal and insertion movements of the bottom part have their limits in the most suitable points, have been provided for.

Besides, in the stop corresponding to removal a change of level takes place due to the entering of an overlap of the stationary or top part into a groove of the moveable or bottom part, facilitated by the weight itself of the heater and that allows the top surfaces of the two parts to remain adjacent and at the same level, to form a good support base that stably supports the gas cylinder and that can be secured if desired by means of some screws that lock together the two parts of the base. This implies, according to the preferred embodiment of the invention, a small slant with regard to the horizontal plane when the bottom part of the base is retracted, since its support areas on the floor do not vary in height when the cited change of level in extending this bottom piece takes place. This does not harm the heater at all, since with the bottom part retracted it is not going to be used. Besides, this slant is very small and is minimized with the proposed structure, without having to resort to a more complex system that would completely avoid it.

On the other hand, the side areas of the bottom part of the base that slide along the guides, have some slanted sections that facilitate the operations of removal and retraction of said part.

Another advantage of the present heater with the extendable base consists of the fact that it is easy to move the same. This is achieved with the same efficiency as in conventional heaters despite the fact that the base thereof is divided into two parts. For this purpose, two of the four wheels that it has, are located in the stationary part, which correspond to the front supports of the heater; the other two wheels, corresponding to the rear supports of the heater, being located in the moveable or bottom part of the base.

Hereinafter, to provide a better understanding of this specification and forming an integral part of the same, some figures in which the object of the invention has been represented in an illustrative and non-restrictive manner are attached hereto.

BRIEF DESCRIPTION OF THE FIGURES

Figure 1 represents a schematic perspective view of a heater that includes an extendable base according to the present invention, said base being extended.

Figure 2 represents a schematic perspective view of a heater that includes an extendable base according to

the invention, said base being retracted and with the heater upside down so that the bottom area of the same can be more easily seen.

Figure 3 represents a raised front view of the stationary or top part of an extendable base for heaters, according to the preferred embodiment of the invention.

Figure 4 represents a top plan view of the stationary or top part of an extendable base for heaters, according to the preferred embodiment of the invention.

Figure 5 is a profile view of the stationary or top part of an extendable base for heaters, according to the present invention, and sectioned according to the A-A section indicated in previous figure 4.

Figure 6 is a partial profile view of the stationary or top part of an extendable base according to the invention, and sectioned according to section B-B indicated in figure 4.

Figure 7 represents a raised front view of the moveable or bottom part of an extendable base for heaters, according to the preferred embodiment of the present invention.

Figure 8 represents a top plan view of the moveable or bottom part of an extendable base for heaters, according to the embodiment of the present invention.

Figure 9 represents a raised rear view of the moveable or bottom part of an extendable base for heaters, according to the embodiment of the present invention.

Figure 10 represents a profile view of the moveable or bottom part of an extendable base for heaters, according to the embodiment of the present invention.

Figure 11 represents a raised front partial view of the moveable or bottom part of an extendable base for heaters, according to the present invention, and sectioned according to section D-D indicated in figure 8.

Figure 12 represents a profile view of the moveable or bottom part of an extendable base for heaters according to the invention and sectioned according to section C-C indicated in figure 8.

Figure 13 represents a perspective front view of one of the heaters of the invention.

Figure 14 represents a perspective profile view of the heater referred to in previous figure 13.

Figure 15 represents a perspective view of another heater of the invention and different from the heater alluded to in previous figures 13 and 14.

Figure 16 represents a perspective profile view of the heater referred to in the previous figure 15.

DESCRIPTION OF AN EMBODIMENT OF THE INVENTION

Hereinafter a description is made of an embodiment of the invention, making reference to the numbering used in the figures.

Hence, the gas heater of this embodiment is provided with an extendable base that has a top part or stationary part (1) that is conventionally joined to the rest of the frame of the corresponding heater and a moveable or bottom part (2) that is under the stationary part guide

and retained by some guides or side tongue pieces (3) of the stationary part (1.)

When one wishes to use the heater, the bottom part (2) of its base is drawn out so that together with the top or stationary part (1) a base suitable to the size of the gas cylinder that is installed is formed.

The front edge of the stationary part (1) of the base, the heater seen from the back has an edge (4) bent downward; while the moveable part (2) has on its front edge a fold or flange (5) that forms a type of groove in which the cited edge (4) penetrates. Thus, it is achieved that the two parts of the base (1) and (2) remain at the same level when the bottom part (2) is drawn out, and besides, retention is provided to prevent the entire removal of said part (2).

When the edge (4) of the stationary part (1) remains inserted in the flange (5) of the moveable part (2), the side ends of said part (2) are still guided under the side tongue pieces (3), due to the U-shape of the moveable part (2.) In these circumstances, some holes (6) of the stationary part (1) also coincide with some holes (7) of the moveable part (2) so that both parts (1) and (2) can be screwed and left even more solidly connected to each other if so desired.

Just as edge (4) retains the flange (5) in the removal of the moveable part (2) in the insertion of the same the limit of movement is determined by some tongue pieces (8) of the stationary part (1) determined by the corresponding fold of some U-shaped cuts.

On the other hand, the stationary part (1) as well as the moveable part (2) are provided with embossments (9) and (10) respectively for the fastening of two front wheels (11) and two rear wheels (12) that will be the support points on the floor, in the heater that includes the extendable base.

Besides, the stationary part (1) as well as the moveable part (2) of the extendable base, have a broad embossment (13) and (14) respectively, which have the function of reinforcing the respective structures of said parts (1) and (2.)

The broad embossment (13) of the stationary part (1) also includes some small ventilation holes (15). Some openings or windows (16) have been provided for in the stationary part for the purpose of providing good ventilation, but they are much larger than the cited holes (15) and are located between the embossments (9) of the wheels (11.)

The moveable part (2) seen from above has an approximate U-shape in which the center branch is thicker than the height of the sides, which are also much thinner than the cited thickness. Said side branches have some top end slants (17), as well as some side overlaps (18) towards the outside which are the areas of the moveable part (2) that are guided along the guides (3) of the stationary part (1.)

These side overlaps (18) are provided with a slanted section (19) that together with the end slants (17) facilitate the insertion and guiding of the moveable part (2) in the stationary part (1.)

With this shape and once the moveable part (2) has been inserted under the stationary one (1), the tongue pieces (8) are then folded so that said moveable part cannot come out through the front part of the heater. If one wants to use the extended base to place a gas cylinder, the stationary part is drawn out until the edge (4) and the flange (5) fit in. Then if one so desires, some screws (20) may be put in the coinciding holes (6) and (7.)

Once the gas cylinder has been put in place and optionally, one can cover the rear part of the heater with an approximately semi-cylindrical frame (21) that fits in some notches provided for in the rear edges of the side walls of the heater.

Claims

1. Gas heater that includes a front part and a placement base characterized in that the placement base comprises at least two parts (1, 2) movable between each other in such a way that they can move between two limit positions, the first limit position corresponding to a position where the placement base corresponds to a first area, the second limit position corresponding to a position where the placement base corresponds to a second area larger than the first area, the second limit position allowing the gas cylinder to be included.
2. Gas heater according to claim 1, characterized in that at least the two parts (1, 2) have together in the second limit position a free top surface that allows the placement of a gas cylinder.
3. Gas heater according to any of the claims 1-2, characterized in that at least the two parts (1, 2) include a first part (1) fixed to the front part of the heater and a second part (2) movable with regard to the first part.
4. Gas heater according to any of the claims 1-3, characterized in that at least the two parts (1, 2) include a first part (1) and a second part (2) movable between each other by means of a sliding movement.
5. Gas heater according to any of the claims 1-4, characterized in that the second part (2) is guided and fastened on a pair of guides (3) existing in side areas of the bottom surface of the first part (1).
6. Gas heater according to claim 5, characterized in that the second part (2) is guided on the pair of guides (3) by means of some side overlaps (18) locked to both extensions or projections of said second part (2).
7. Gas heater according to claim 6, characterized in that these extensions and overlaps (18) have been provided with some slanted sections (17, 19)

respectively that facilitate insertion and removal of the second part (2) into the guides (3).

8. Gas heater according to any of the claims 3-7, characterized in that the first part (1) includes an edge (4) positioned downward, while the second part (2) has a flange (5) that forms a housing for said edge (4) when the parts (1, 2) are in the second limit position, in such a way that in said case the top surfaces of the first part (1) and the second part (2) remain adjacent to each other and on the same level.
9. Gas heater according to any of the claims 3-8 characterized in that some holes (6) have been provided for in the first part (1) which in the second limit position coincide with some holes (7) of the second part (2), that permits the first part (1) and the second part (2) to be locked together by means of screws or the like (20).
10. Gas heater according to any of the claims 3-9, characterized in that the first part (1) includes U-shaped cuts defining some tongue pieces (8) that comprise both stops when the second part (2) is inserted.
11. Gas heater according to any of the claims 3-10, characterized in that the first part (1) as well as the second part (2) have some embossments (9) and (10) in which some front wheels (11) and some rear wheels (12), respectively, are fastened.
12. Gas heater according to any of the claims 3-11, characterized in that the first part (1) as well as the second part (2) include broad embossments (13, 14) to reinforce the structure.
13. Gas heater according to any of the claims 3-12, characterized in that the first part (1) has some ventilation holes (15) and windows (16).
14. Gas heater according to any of the claims 1-13, characterized in that the front part of the heater includes two side walls that include anchoring means for a rear frame (21).

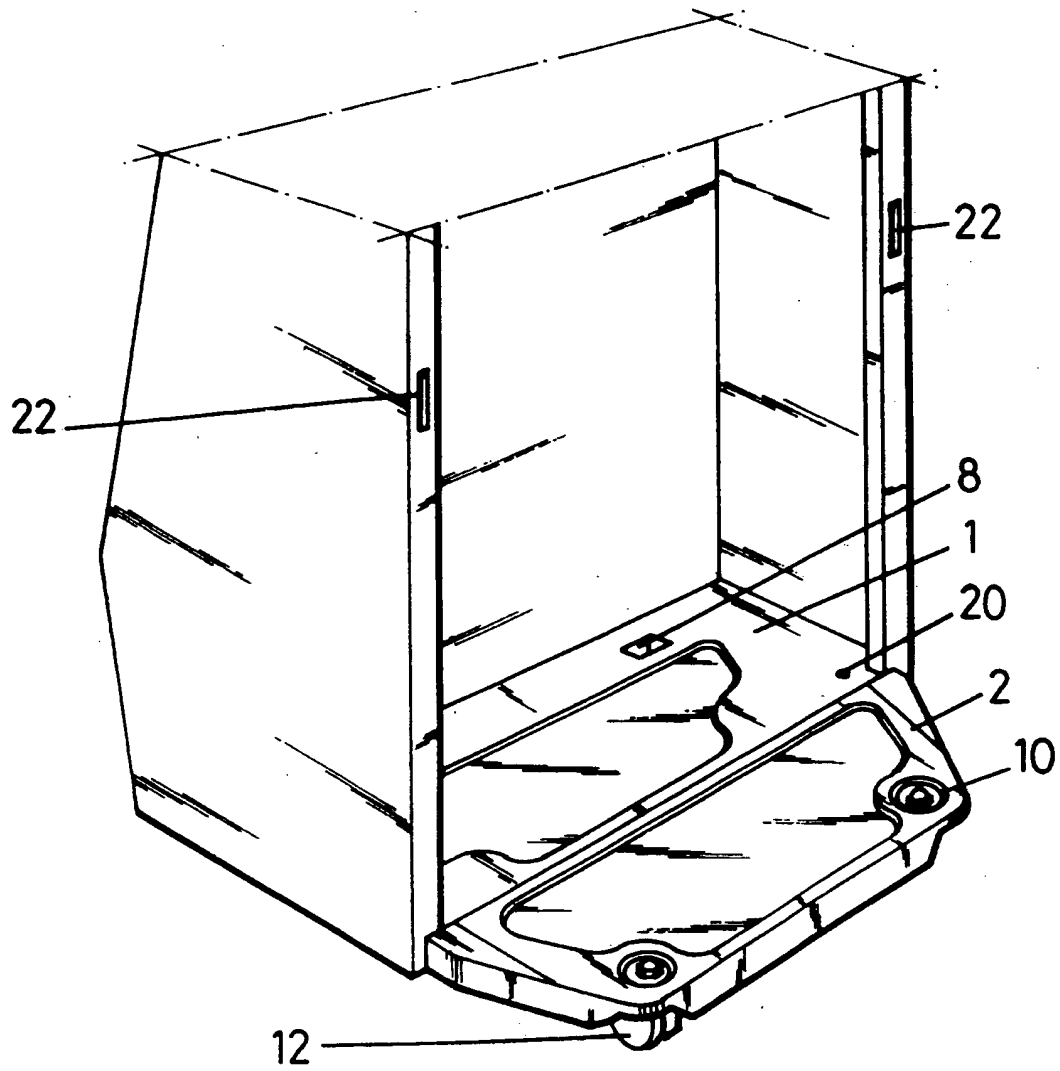


FIG.1

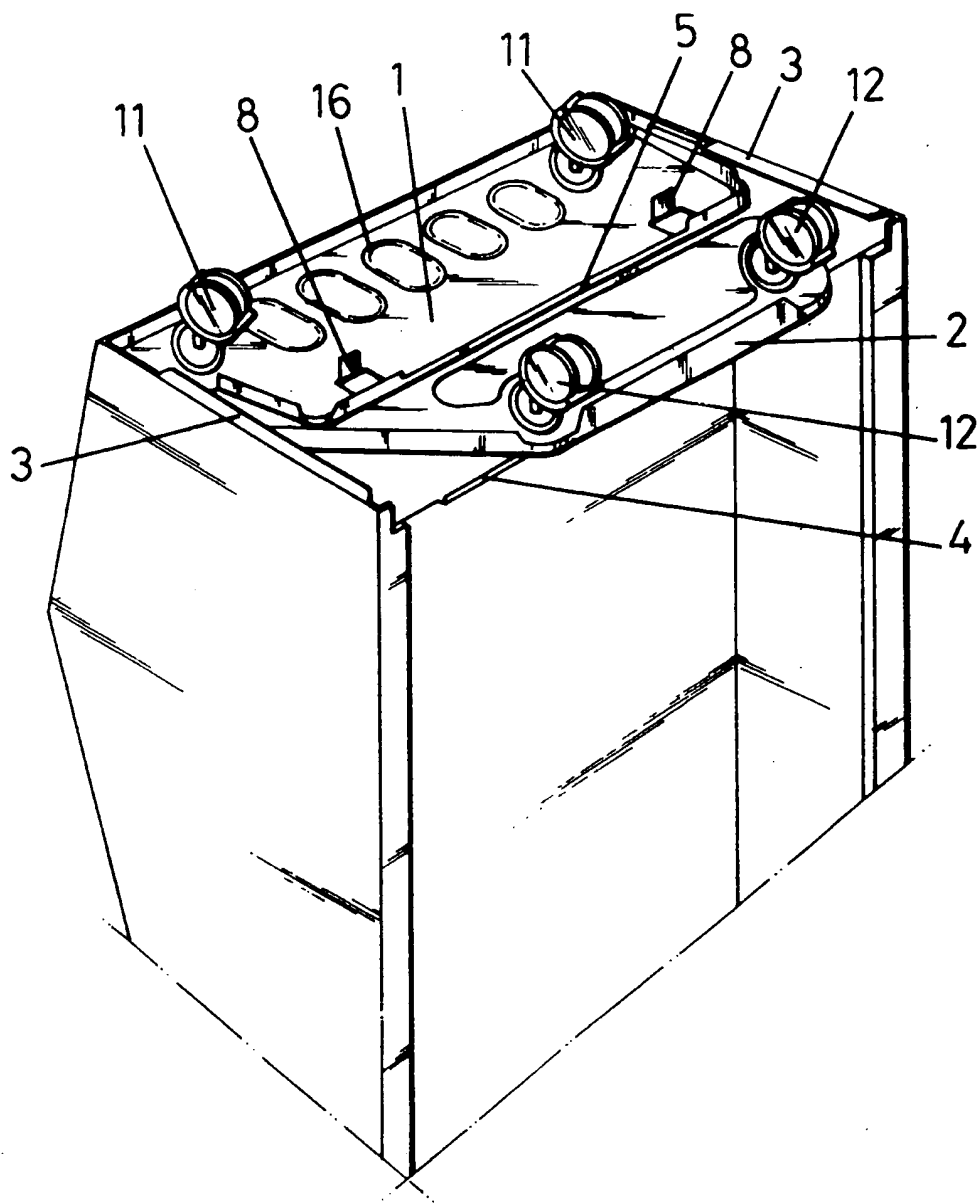


FIG.2

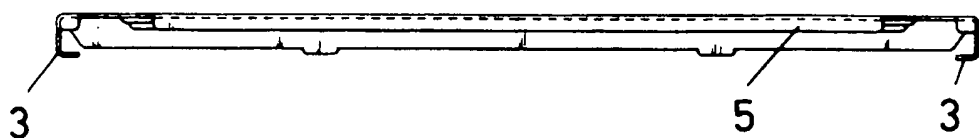


FIG. 3

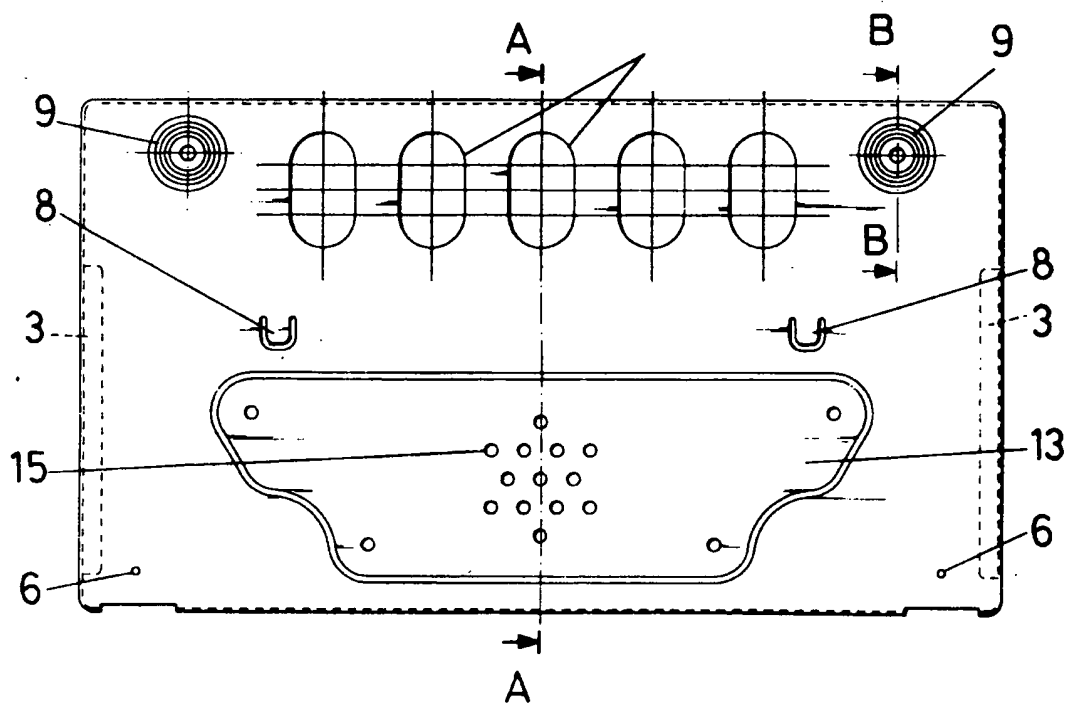


FIG. 4

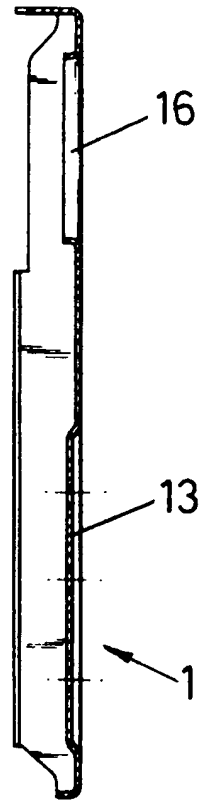


FIG. 5
A - A

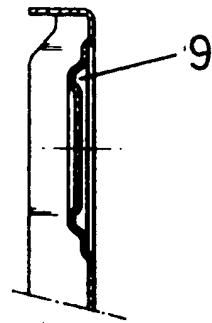


FIG. 6
B - B

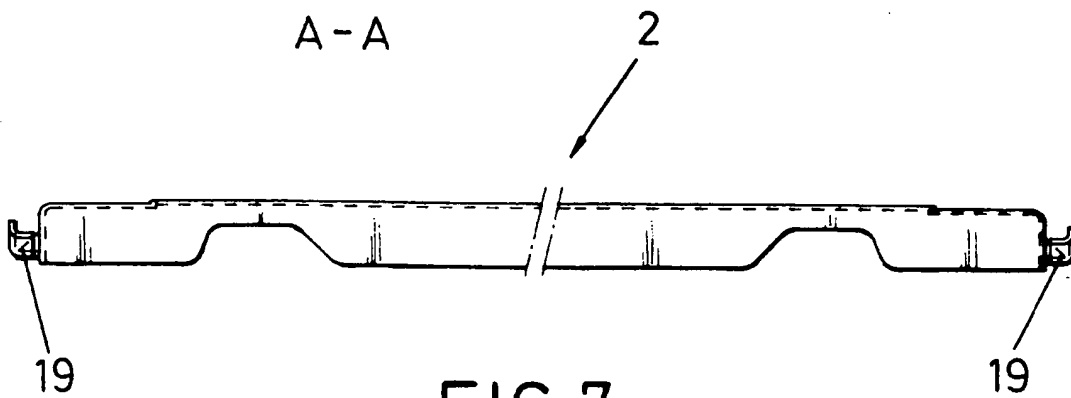


FIG. 7

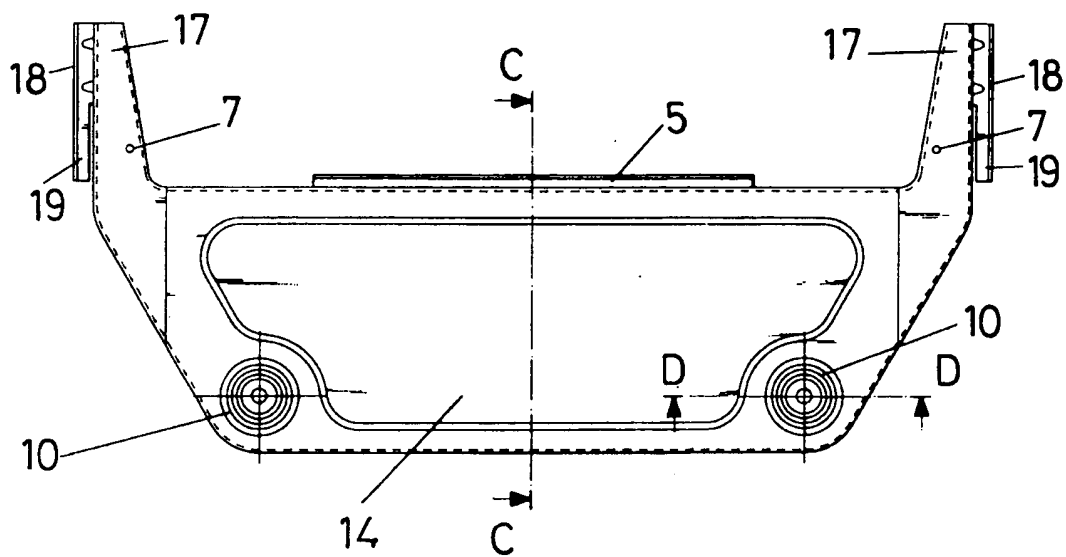


FIG. 8

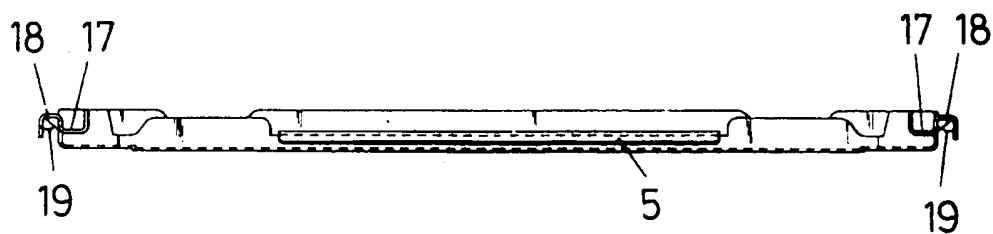


FIG. 9

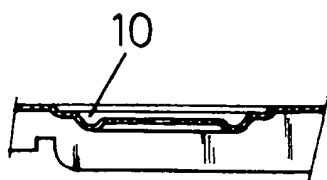


FIG. 11
D - D

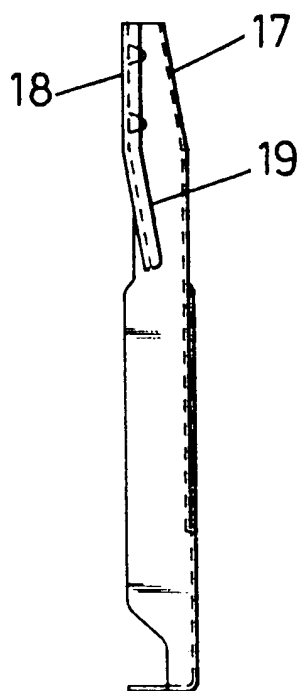


FIG. 10

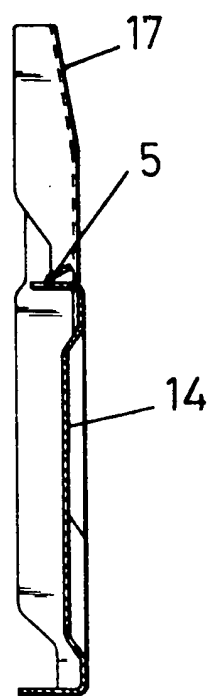


FIG. 12
C - C

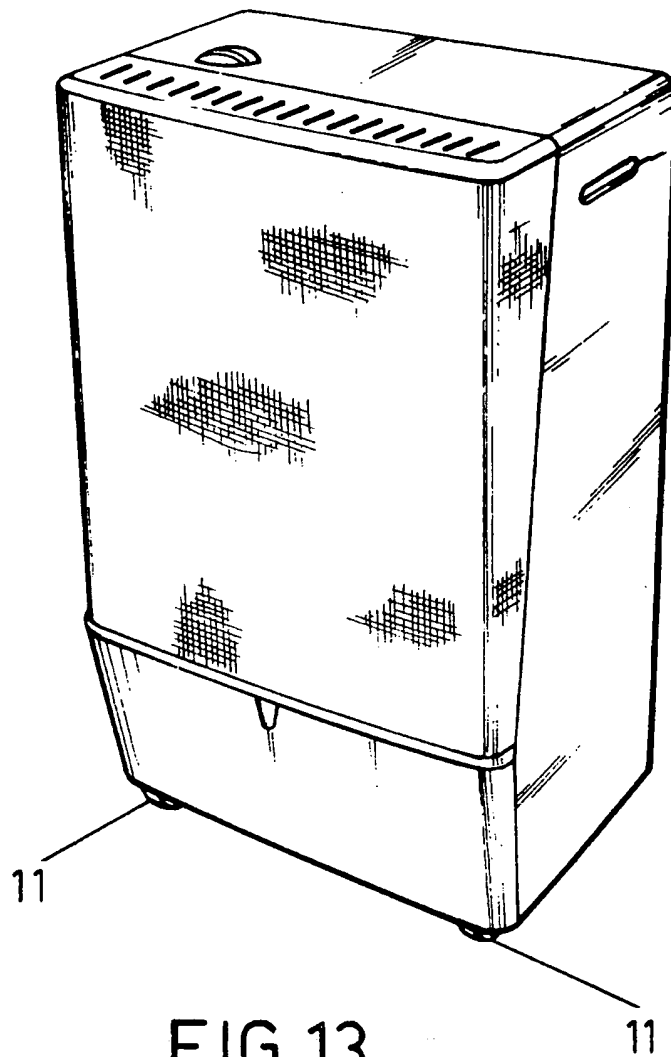


FIG. 13

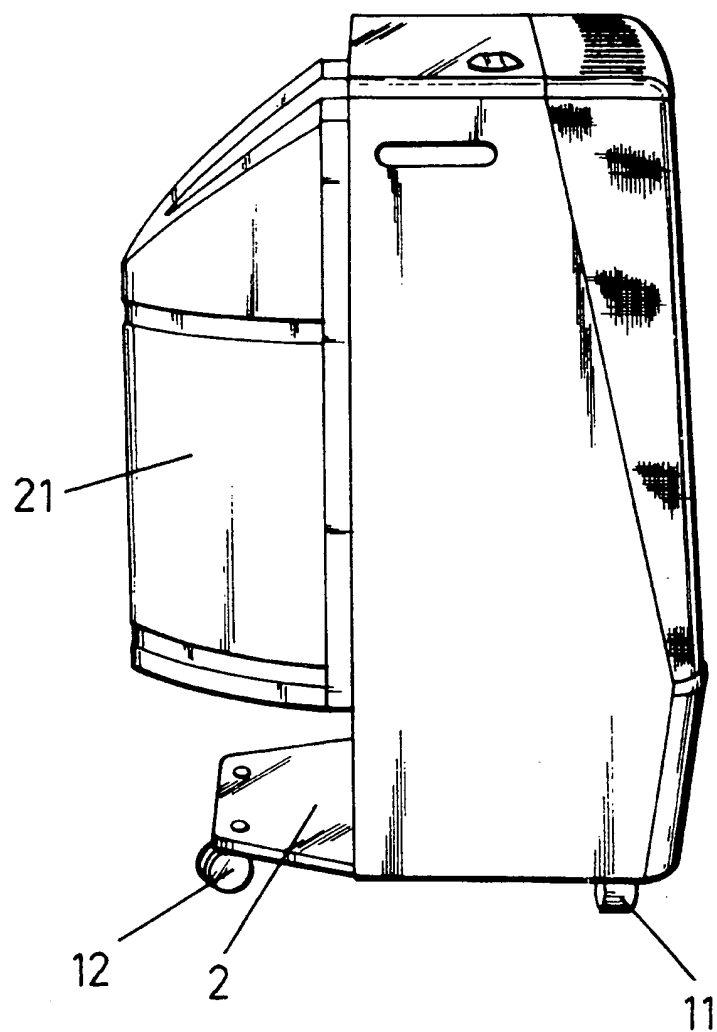


FIG. 14

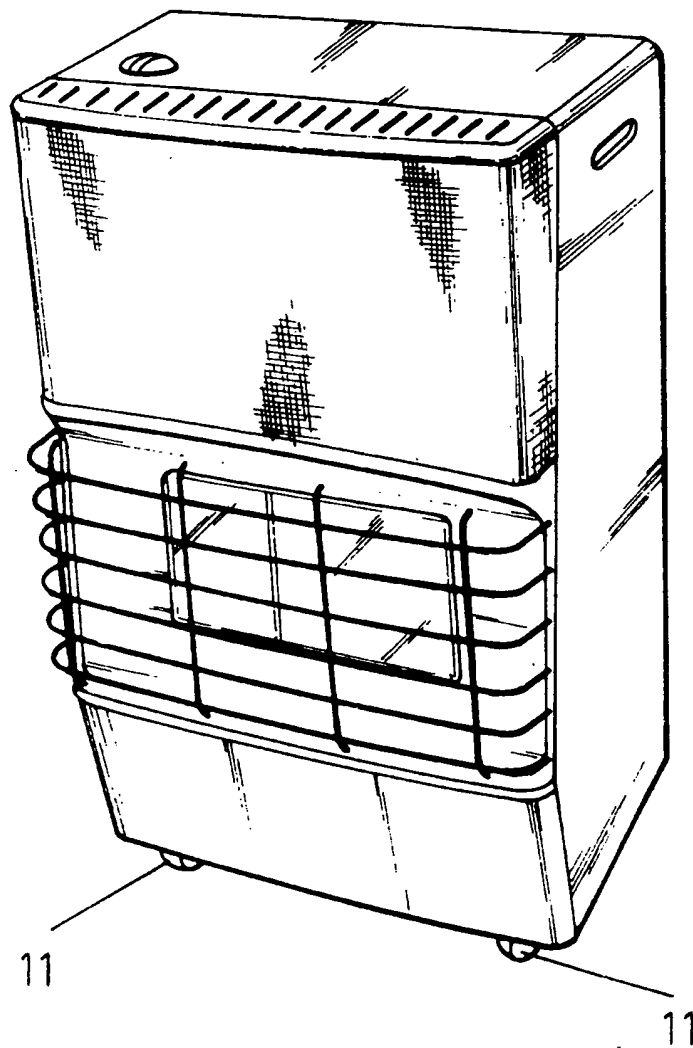


FIG.15

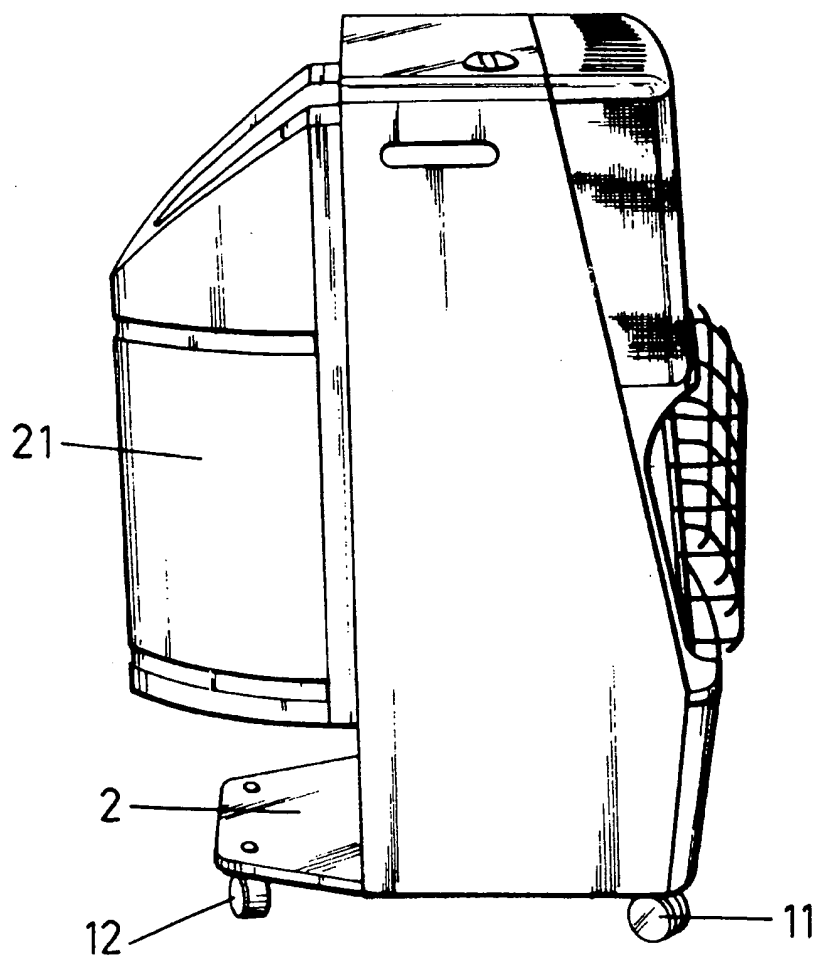


FIG. 16



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EUROPEAN SEARCH REPORT

Application Number
EP 95 20 2310

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
Y	FR-A-1 412 499 (USINES ET FONDERIES ARTHUR MARTIN)	1	F24C15/08
A	* page 2, left column, line 13 - line 53; figures 5,6 *		
Y	BE-A-570 456 (SOCIETE S.A. LA COUVINOISE)	1	
A	* page 1, line 36 - line 41; figure 1 *	2-4	
A	FR-A-2 623 882 (DE LONGHI S.P.A.) * page 5, line 26 - page 6, line 17; figures *	1,4,8,9	
A	GB-A-2 090 398 (ORBAICETA S.A.) * page 1, line 89 - page 2, line 67; figures *	1,12,13	
A	FR-A-2 196 773 (ALLANTER INSTRUMENTS LIMITED) * page 8, line 6 - line 27; figures 5,6 *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			F24C F24H
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 8 December 1995	Examiner Pineau, A
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